# REQUEST FOR PROPOSAL

# **COUNTY OF FRESNO**

# Installation of a

# **Gas Collection and Control System**

# For Modules 1-4

# At The

# American Avenue Landfill 18950 West American Avenue Kerman, CA 93630

**SUBMITTAL:** Six (6) copies must be received on or before:

5:00 p.m. June 18, 2001

Addressed to: Stuart G. Seiden, Capital Projects Division Mgr.

Mailing Address: Department of Public Works,

2220 Tulare Street, Suite 610

Fresno, CA 93721

Office Address: Fresno County Plaza

2220 Tulare Street, Suite 720

Fresno, CA 93721

Mark Envelope: "PROPOSAL – GCCS / American Ave. Landfill"

PROPOSALS RECEIVED AFTER THE TIME AND DATE STATED ABOVE SHALL BE RETURNED UNOPENED TO THE PROPOSER.

#### INQUIRIES:

Direct questions or clarifications of this Request For Proposal document to Baron Zerahian, Staff Analyst, (phone: 559-262-4866, fax: 559 488-1945, e-mail: <a href="mailto:bzerahian@fresno.ca.gov">bzerahian@fresno.ca.gov</a>), Capital Projects Division, Department of Public Works.

#### **CONSULTANT SELECTION POLICY:**

Copies of the Fresno County Board of Supervisors Resolution 90-028 (Ordinance Code Chapter 4.10) which establishes procedures that implement the selection of Architects, Engineers, and other Professionals, may be obtained from Baron Zerahian, Staff Analyst.

It is the intent of the County to engage a consultant who will provide professional services as described herein; however the County reserves the right, at its sole discretion, to terminate this RFP process or negotiations with a selected consultant and either perform the work with their staff or begin a new RFP process. Nothing herein, or in the process, shall be construed as having obligated the County to pay for any expenses incurred by respondents to this RFP, or to the selected consultant prior to Board of Supervisors approval of a consultant services agreement.

# FRESNO COUNTY'S WEBSITE:

An electronic copy of this Request For Proposal and Fresno County's Consultant Selection Policy is available on Fresno County's website at the URL: www.fresno.ca.gov/4510/index.htm.

#### **MODIFICATIONS:**

Any modifications to this RFP will be provided to RFP holders of record. In order to become an RFP holder of record, one must submit to the County the information on the "Notice of Issuance" or provide similar written notification if the RFP is downloaded from the website or obtained from other sources.

Issuance Date: May 18, 2001

# **TABLE OF CONTENTS**

<u>ARTICLES</u>	DES	<u>SCRIPTION</u>	PAGE NO.
l.	SUM	MMARY	4
II.	PROJECT INFORMATION AND REQUIREMENTS5		
III.	SERVICES OF THE CONSULTANT8		
IV.	SERVICES PROVIDED BY THE COUNTY16		
V.	BACKGROUND CHECK16		
VI.	PROPOSAL SUBMITTAL REQUIREMENTS17		17
VII.	CONSULTANT SELECTION PROCEDURE19		19
VIII.	FEE DETERMINATION		21
ATTACHMENT	<u>ΓS</u>		
ATTACHMENT	ГΙ	AMERICAN AVENUE LANDFILL LOCATION MAP	
ATTACHMENT	ГΙΙ	CURRENT SITE TOPOGRAPHY AND LAYOUT	
ATTACHMENT	ГШ	LANDFILL GAS MASTER PLAN	
ATTACHMENT	ГΙ	CONCEPTUAL 2002 GCCS LAYOUT	
ATTACHMENT	Г۷	SAMPLE CONSULTANT AGREEMENT	

### I. SUMMARY

#### A. INTRODUCTION AND PROJECT OVERVIEW:

Fresno County seeks to retain the services of a consultant civil engineer with demonstrated experience and qualifications to design, prepare plans, specifications, cost estimates and other consultant services for the first phase construction of a Landfill Gas Collection and Control System (GCCS) for Modules 1-4 at its American Avenue Landfill. The system will consist of vertical wells, a gas piping and condensate collection network, blowers and a flare station.

#### **B. REQUIRED CONSULTANT SERVICES:**

The Consultant shall provide qualified staff or retain subconsultants for the following specialty at his/her own expense to provide technical assistance to meet the program requirements.

- 1. Landfill Gas Collection and Control Systems Design, Cost Estimating and Construction Inspections.
- 2. Obtaining Necessary Permits

In accordance with the extra services provisions of the consultant agreement, the consultant shall retain the following specialty consultants if this project requires their services.

- 1. Geotechnical
- 2. Site Surveyor

#### C. EXISTING CONDITIONS:

The American Avenue Landfill site is located in western Fresno County, approximately 17 miles southwest of the City of Fresno and approximately six miles southwest of the City of Kerman (refer to ATTACHMENT I for location map). The site is 4 miles west of State Highway 145 (Madera Avenue).

The Landfill is a Class III municipal solid waste disposal facility where only non-hazardous waste is accepted. The Landfill operates under a Solid Waste Facilities Permit issued by the County Community Health Department with the concurrence of the California Integrated Waste Management Board. The Landfill also operates according to the California Regional Water Quality Board.

The County has operated the Landfill since the early 1970's. Of the 440 acres currently owned by the County and permitted for landfill, approximately 361 acres are available for waste disposal (refer to ATTACHMENT II for Current Site Topography and Layout). Of this 361 acres, approximately 158 acres are covered with waste, of which 128 acres are lined area and 30 acres are unlined. The remaining 203 acres are available for future expansion. The Landfill has a remaining estimated capacity of approximately 33 million cubic yards and the projected closure date is 2031.

As a regional disposal site for the County, the Landfill currently receives most of the solid waste generated within the County. Approximately 600,000 tons of solid waste is received per year (51,009 tons per month, or 1645 tons a day over a 362 day average). The Landfill operates 7 days a week and is closed only on New Year's Day, Thanksgiving Day and Christmas Day.

# II. PROJECT INFORMATION AND REQUIREMENTS

# A. PROJECT BACKGROUND:

Landfill gas is generated from the biochemical breakdown of refuse in the landfill. The gas is comprised mainly of methane, carbon dioxide and nonmethane organic compounds and poses a potential threat to air quality and groundwater. Under certain circumstances, the gas can become highly explosive if combined with oxygen and ignited. State and Federal regulations require that a gas collection and control system (GCCS) be installed to protect public health and safety.

A Landfill Gas Master Plan has recently been completed and provides the framework for the build out of GCCS related capital improvements for the short and medium term and a plan for budgeting and cost estimating. The Master Plan is provided in ATTACHMENT III and proposers should review this document thoroughly.

#### **B. PROJECT DESCRIPTION:**

The Landfill Gas Master Plan provides for five phased installations of a well field and piping system from the year 2002 through to 2008. The first phase encompasses landfill modules 1-4 (refer to ATTACHMENT IV for the Conceptual 2002 GCCS Layout). These modules contain waste that is 5 years or older, and the Federal Plan for Emission Guidelines (EG) requires that a GCCS be in place for these modules by October 2002.

The proposed GCCS should meet the functional objectives provided in the Master Plan and provide all the components specified in the Plan's Well-field and Piping Network (Collection System). Vertical wells in Modules 1-4 must be vertically extendable, as future waste placements will occur over these modules. The system should have an after hours system failure notification device and design considerations must be made for system expansion.

The consultant will be expected to provide plans, specifications, cost estimates and other consultant services for first phase construction. The consultant will also be responsible for obtaining all required permits for this project. Tasks will include preparing all applications, providing all data and documentation, and facilitating the review and approval process. Regulatory agencies with permit authority over landfill GCCS issues may include the San Joaquin Valley Unified Air Pollution Control District, Fresno County Department of Community Health, Environmental Health Division, California Integrated Waste Management Board and the California Regional Water Quality Control Board.

During construction, the consultant will provide construction inspection and management services. These services are described later in Services of the Consultant, Article III E, Phase 5A, Construction Inspection and Phase 5B, Construction Management.

#### C. SERVICES PROVIDED BY COUNTY:

A Project Committee consisting of members from the Administrative Office, Planning & Resource Management Department and Department of Public Works will guide the Owner's interest and carry forward recommended project scoping and details to the Board of Supervisors.

#### D. PROJECT BUDGET AND FUNDING:

The budget allocation includes all associated project costs including, but not limited to:

- All engineering service costs
- All construction costs
- All County administrative costs
- All permit and planning review costs (County coordinated)
- All contract document printing for project bidding, award and construction (County provide)
- All legal advertising and plan distribution costs (County provided)

# **E. PROJECT MILESTONES:**

#### **Estimated Duration Activity Description:** Issuance of RFP and consultant responses 4 wks Consultant Selection 5 wks Agreement Negotiations and Execution 6 wks Phase 1, Pre-design 2 wks Phase 2, Preliminary Plans 3 wks Phase 3. Final Plans 4 wks Phase 4, Bidding and Award 10 wks Phase 5A & B, Construction Inspection and Management 12 wks Phase 6. Post Construction 3 wks

Note: Finalists interviews have been tentatively scheduled for the week beginning June 25, 2001. Proposers will be notified of those advanced to finalist status by fax and mail.

#### F. SAMPLE CONSULTANT AGREEMENT:

Sample Consultant Agreement (ATTACHMENT V) is provided as an example of the typical language in a consultant service agreement with the County. It is recommended that the consultant review the sample agreement with legal counsel and insurance providers. The Agreement requires the consultant carry a **Project Specific Professional Practice Insurance Policy** in the amount of \$1,000,000.

Finalists shall be prepared to raise any agreement concerns and identify all agreement issues at the interview. The consultant shall also be required to comply with the Fair Political Practices Act reporting requirements.

#### G. SPECIAL CONDITIONS:

The County has a preference in securing the services of a civil engineer with demonstrated past experience in designing landfill gas collection and control systems the same size or larger as this project. Proposers are requested to provide in their proposals specific gas extraction, exhaust and ventilation systems design experience that have been approved by the California Integrated Waste Management Board and an air pollution control district. Please refer to Article VI, Proposal Submittal Requirements, Part A, Number 8. Proposers are also requested to certify past experiences in the form of a letter from previous project landfill management indicating the level of user satisfaction and other project related information. References will be checked.

# III. SERVICES OF THE CONSULTANT

The services required of the Consultant may include, but not necessarily limited to the following phases of work:

# A. Phase 1, Pre-Design:

The Consultant shall:

- Develop project parameters in concert with the County's Project Committee members' recommendations and concerns. The Project Committee will consist of members from the Planning & Resource Management Department, the Administrative Office and the Department of Public Works.
- 2. Consult, communicate, and meet with County every two (2) weeks, or more often if necessary, to verify, refine, and complete the project requirements and review the progress of the project. Consultant shall prepare complete minutes of meetings attended.
- 3. Develop and maintain a project schedule and status report that shall be updated and submitted to the County staff on a biweekly basis.
- 4. Review and evaluate County provided American Avenue Landfill Gas Collection and Control Master Plan and topographic maps.
- 5. Confirm the location of existing on-site infrastructure systems in close proximity to the project site, including, but not limited to electrical, mechanical, plumbing, communications, telephones, and computers through visual observations, review of record documents, and discussions with the Planning & Resource Management Department's staff.
- 6. Identify and document all regulatory compliance measures and approval processes required to complete this project. Consultant shall contact regulatory agencies with permit authority over landfill GCCS issues.

# B. Phase 2, Preliminary Plans

The Consultant shall:

1. Consult, communicate and meet with County every two (2) weeks, or more often if necessary, to verify, refine, and complete the project requirements and review the progress of the project. Consultant shall prepare complete minutes of meetings attended.

- 2. Prepare the preliminary plans and technical specifications indicating the number, type, and spacing of vertical wells, well flow controls / monitoring, layout of piping system, condensate collection and transport system, blowers and flare system. The design will include all civil, mechanical, and electrical drawings and specifications to include Division One documents. Design shall be in accordance with Federal New Source Performance Standards/Emission Guidelines (NSPS/EG) regulations 40 CFR 60.752 through 60.759. Design considerations must be made for system expansion.
- 3. Prepare and submit a preliminary opinion of probable construction cost identifying significant area and system components of the Gas Collection and Control System (GCCS) for modules 1-4. The opinion of probable construction cost shall be submitted in the "Construction Specifications Institute Uniform Construction Index" (CSI/UCI) 16 division format and shall identify design contingency and escalation amounts to the midpoint of the construction period.
- 4. Prepare all permit applications including providing all data and documentation for County and other agency reviews and permits. The Consultant shall be responsible for facilitating all agency review and approval processes so permits can be obtained in an expeditious manner.
- 5. Prepare written instructions in the form of a training and operations manual for use by the landfill staff. The manual shall contain all necessary information for operating and maintaining the GCCS.
- 6. If required, provide geotechnical studies as an extra service.
- 7. Written authorization will be given upon acceptance of completion of this phase of the work and before proceeding to the next phase.

# C. Phase 3, Final Plans

The Consultant shall:

1. Prepare final working drawings from preliminary plans, as modified by the County, on a CAD system acceptable to the County (such as DataCAD or AutoCAD) and on 24" by 36" sheets, or other size approved by County, drawing size sheets and technical specifications on 8-1/2" by 11" pages setting forth in detail the work to be done, the materials, workmanship, finishes, and equipment required for the mechanical, electrical, plumbing and other components of construction necessary to provide the County a complete and functional project for its intended purpose.

- 2. Prepare construction specifications in UCI/CSI 16 division format with an IBM PC-compatible word processing program such as WordPerfect or Microsoft Word. The County will prepare bidder's instructions, general conditions, and supplemental general conditions.
- Include in the specifications a construction sequencing of work. County's Project Committee shall review and approve the schedule prior to completing the final construction documents.
- 4. Review, comment, and/or make recommendations on the form and content of the County's General Conditions, Special Conditions, and Bid Form as they apply towards the project.
- 5. In addition to the technical specifications, prepare special or supplemental conditions for the construction contract, including a Health and Safety Plan. The County will package the Consultant's documents with the County's approved General Conditions, Notice to Contractors calling for bids, the Bid Form, and related documents to complete the construction contract and bid specifications.
- 6. Monitor and keep County informed regarding the impact of design issues on the project budget. Upon the request of the County, Consultant shall incorporate into the design such reasonable changes as the Consultant deems appropriate as a result of the County's review processes and impact on the project budget or opinion of probable construction cost.
- 7. Submit to the County a final opinion of probable construction cost in the CSI/UCI 16 division format for the base bid work and alternate bid items. The opinion of probable construction cost shall be projected to the midpoint of the scheduled construction period to be scheduled by the County. Differences between the design development (preliminary) and final opinion of probable construction cost shall be explained in writing.
- 8. Submit the construction period for bidding purposes to the County for approval.
- 9. Include alternate bid items (preferably additive), not as separate design drawings but incorporated into the original construction drawings, to allow construction element choices or cost options by the County. The basis of award may be on the base bid only, or base bid plus additive alternates. Additive bid items may be necessary so that the County will be able to award a construction contract not exceeding available construction funds.
- 10. If required for the construction of this project, propose and submit a

- recommended testing and inspection list for materials identifying type, quantity, frequency, schedule, and cost estimate of tests to be performed by an independent testing firm during construction.
- 11. Submit to the County twelve (12) copies of the completed final plans, specifications, and opinion of probable construction cost. Consultant shall meet as necessary with the County to identify and explain in detail all elements included in the final plans document requirements as outlined herein or meet as necessary to fully explain his/her design scope and obtain County's approval thereof.
- 12. Submit final plans and construction documents to California Integrated Waste Management Board and the San Joaquin Valley Unified Air Pollution Control Board for approval and permits.
- 13. Review and confirm with County's Project Committee the construction budget.
- 14. Modify plans and construction documents as required to obtain permit approvals.
- 15. Submit progress originals and final originals of the plans, specifications, and opinion of probable construction cost for reproduction by the County. Submit four copies of structural calculations.
- 16. Not proceed with the next Phase unless expressly authorized in writing by County.

# D. Phase 4, Bidding and Award

The Consultant shall:

- Deliver to the County two (2) weeks prior to the advertising date (which date will be determined by County), the final completed original drawings and specifications for County printing and distribution of bid sets to interested contractors. The original drawings and specifications index sheet shall be stamped by a seal with Consultant and subconsultants' license numbers and/or signed in accordance with the California Business and Professions Code.
- 2. Submit a list of general and specialty contractors who may be interested in bidding on this project.
- 3. Attend the pre-bid conference scheduled by the County.

- 4. Prepare addendum drawings and other documents as required to clarify scope of work to be bid upon, at no additional cost to the County. Coordinate subconsultants' addendum drawings and documents.
- 5. Prepare drawings and work necessary to delineate either the County's changes in scope to the contract or changes in job-site conditions due to inaccurate information provided by the County. Such work shall be provided as directed by the County representative and shall be an Extra Service to the Consultant's agreement.
- 6. Submit to the County for review and approval any addenda deemed necessary. Addenda, if any, shall be submitted no later than ten (10) working days prior to the scheduled bid opening. The addendum shall be distributed by the County. An electronic copy of addenda items shall be furnished to the County. No addendum will be issued in the 72 hour period prior to bid opening.
- 7. Assist the County in evaluating the base bids and alternate bid items received.
- 8. Delete or otherwise change portions of the construction work at the request of the County if the lowest bid proposal for the proposed construction contract exceeds the County approved opinion of probable construction cost (which will include the Consultant's design contingency amount approved by the County) by 10% or more, and if the County rejects all bids. In such event, the Consultant shall revise the plans and specifications to comply with such modifications and also shall assist the County in obtaining new proposals from contractors, all at no additional cost to the County. Such modifications shall be completed on a time schedule commensurate with the scope of the change and as set forth by the County.

# E. Phase 5A, Construction Inspection

- The Consultant shall perform construction inspection services to ensure Contractor's compliance with construction documents. Consultant inspection services may include, but not necessarily limited to the following tasks:
  - a. Provide an Inspector of Record (IOR) who will provide full-time or part time inspection of the project. The IOR shall be completely familiar with the project plans and specifications and knowledgeable of GCCS construction methods.
  - b. Observe and document vertical well location, including drilling,

- assembly and backfill operations, collection header piping, control / monitoring units, flare station and all other GCCS system components. Verify that liner integrity is maintained.
- Verify that construction materials and procedures comply with the construction documents. Report known defects in materials and deficiencies in construction to Contractor, Consultant and County.
- d. Provide all required quality control testing required during construction. The testing shall be performed by a qualified, certified testing laboratory.
- e. Assist the County with review of field changes initiated by the County and/or Contractor.
- f. Review Contractor's monthly progress reports to ensure consistency with activities observed in the field.
- g. Maintain a site record that includes field inspection logs, records of telephone conversations and site meetings, field testing and results, photographs and photographic logs.
- h. Conduct pre-final and final inspections of the installed GCCS. A punch list which details observed deficiencies will be provided to the Contractor.
- Provide the County with a construction documentation report that will include a statement of completion.
- j. Based upon his/her observations of the progress of construction and a review of the Contractor's application for payment, and the IOR's recommendation, determine on a monthly basis, the amount owing to the Contractor under the contract documents and provide his/her recommendations, through appropriate certificates, that the County make payments in such amounts as he/she determines to be owed. Such certificates shall constitute a representation to the County that the work has progressed to the point indicated and that to the best of the Consultant's knowledge, information and belief, the quality of work is in accordance with the contract documents.

# **Phase 5B, Construction Management**

The Consultant shall:

1. Attend the preconstruction conference scheduled by the County.

- 2. Attend construction progress meetings.
- Make recommendations to the County on all claims of the County
  or Contractor and all other matters relating to the execution and progress
  of work, including interpretation of the Contractor's contract documents.
- 4. Review and make recommendations on contractor technical submittals including material product and performance data and manufactures installation instructions.
- 5. Within seven (7) working days of County's request, review and make recommendations for samples, schedules, shop drawings, and other submissions for general conformance with the design concept of the project and for general compliance with the plans and specifications and information given by the Consultant's contract documents.
- 6. Within two (2) working days of County's request for information (RFI), respond to the County Construction Engineer or Contractor, through the County Construction Engineer, with information and/or drawings needed from Consultant in order to clarify the intent of the construction contract plans and specifications of the project. Consultant shall review Contractor's cost proposals for all change orders associated with any additional work as may be necessitated by the RFI clarification.
- 7. Recommend and prepare such change orders as are deemed necessary, and opinion of probable construction cost. Where the change order arises as a result of a negligent error or omission of the Consultant, the Consultant shall not be compensated as an Extra Service for time spent or cost incurred in efforts connected with the correction thereof. Any changes to the construction contract shall be made only with written County approval.
- 8. Review as-built plans, surveys and record specifications submitted by the Contractor to verify consistency with field observations, and contract documents.
- 9. Assist County, at County's express, written authorization, with any claim resolution process involving Contractor and County.

# F. Phase 6, Post Construction

The Consultant shall:

1. Review and forward to the County Construction Engineer two (2) copies of

- the Operations and Maintenance Manuals to be furnished by the Contractor.
- 2. Inform the County of all written guarantees required of the Contractor by the Consultant's technical specifications or special conditions.
- 3. Assist with the start-up and balancing of the GCCS. The objective would be to optimize system performance, and landfill gas migration control. Perform tests on after hours system failure notification device.
- 4. Conduct a staff orientation on the operational aspects of the GCCS and training on how to continue operations.
- 5. Return to County all plans borrowed from County by Consultant.
- 6. Require through the construction contract specifications that record drawings be prepared by the Contractor and submitted to the County for acceptance by the construction inspector and Consultant. Upon completion of the project, obtain from the Contractor all information necessary to document all changes made to the project, proceed to transfer the Contractor's record drawing changes onto the Consultant's original drawings or .003" mylar (matte one or both sides) reproducibles of the original drawings. The complete record drawing set shall remain at all times the property of the County. Changes shall be identified by cloud markings and shall identify date of change and its source, such as from addenda, change order, or clarification. Consultant shall have no responsibility for the accuracy of information provided, either by the Contractor or by the construction inspector, for transfer to record drawings.
- 7. If construction plans have been prepared with a CAD system, record drawings in the form of .dxf or .dwg files shall be furnished and delivered to Department of Public Works in addition to mylar reproducibles. Such .dxf or .dwg files shall be furnished on either 100MB 'Zip' disks, 3.5" DS/HD disks, or compact disk (CD-ROM). Final plans and specifications become the property of the County and can be used by the County at its own discretion.
- 8. Participate fully, aligned with and not adverse to the County, upon request, in the early settlement discussions of construction claims resolution issues.
- No final payment to the Consultant will be issued until the services of this Phase have been performed and negligent errors, acts and omissions attributed to the Consultant have been resolved.

# IV. SERVICES PROVIDED BY THE COUNTY

Fresno County will provide the services listed below in support of the Consultant's professional services. The Consultant shall be responsible for the evaluation of all information supplied by the County and verifying its accuracy.

The County will:

- A. Provide a County representative who shall represent the County and shall work with the Consultant in carrying out the provisions of the Agreement.
- B. Transmit documents for other agency reviews, and pay all application and review processing costs.
- C. Assume all costs associated with reproducing the final bid documents and addenda and their distributions. Assume all project advertising costs.

# V. BACKGROUND CHECK

The County reserves the right to conduct a background inquiry of each proposer which may include collection of appropriate criminal history information, contractual and business associations and practices, employment histories and reputation in the business community. By submitting a proposal to the County, the proposer consents to such an inquiry and agrees to make available to the County such books and records the County deems necessary to conduct the inquiry.

# VI. PROPOSAL SUBMITTAL REQUIREMENTS

Please do not provide more information than requested by Article VI of this Request for Proposal. The completeness of the proposal will be evaluated by a Selection Committee.

Submittal will be in two parts.

# PART A.

The <u>first part</u> will enable the County to appraise the general qualifications of the consultant. You <u>must</u> answer the following questions in the <u>same</u> <u>sequence</u> as below.

1. Firm name, address, phone number, fax number and E-mail address or Web page address (if available). Also, provide this information on all associated

firms and partners.

- 2. Specify type of organization (individual, partnership or corporation including the state of incorporation) and if applicable indicate whether you are:
  - a Small Business.
  - b Disadvantaged Business.
  - c Minority and/or Women Owned Business.
- 3. Firm principals who will be responsible for the project, their education, credentials, and experience in similar work.
- 4. Key personnel who will be assigned to work on the project, their education, credentials, and experience on comparable projects. Indicate the tasks to be performed by these key individuals and expected time or effort they will commit to the project.
- 5. Subconsultants (mechanical, electrical, and others as the project may require) to be used. Indicate the tasks to be performed by these consultants.
- 6. Present staff number and classification. Will you have to secure more staff to complete the commission?
- 7. List current projects or commitments for services in your office.
- 8. List in reverse chronological order for the last five years projects involving the design of landfill gas collection and control systems.

Indicate for each of these projects:

- (a) Name and location of project
- (b) Description of the project, including the type of system and size, and if the project required CIWMB and APCD approval
- (c) Description of all services provide by your firm, including if construction inspection, management, permit assistance, staff training, etc., were provided
- (d) Name of owner
- (e) Name of current contact person and telephone number (Contact person, who, at the time of RFP submittal, was, will be or is employed by the owner and who would have personal knowledge of the completed work)
- (f) Your firm's specific involvement (Engineer of Record (EOR), subconsultants or other capacity)

Also provide a letter from previous project landfill management indicating their name, position and role in the project, a description of the project and services

provided, and level of user satisfaction.

- 9. List at least four additional references of present or past clients with their telephone numbers and fax number.
- 10. Include a current copy of Standard Form 254 (showing relevant facility experience) for your firm. You may provide a SF 254 for subconsultants also.
- 11. The Consultant will submit as a part of his or her initial submittal the firm's current basic hourly rate schedule for all current employee classifications. Also provide hourly rates for Court appearances and testimony. Such hourly labor rates shall include costs for items such as office supplies, computer and plotting supplies, printing, postage, vehicle costs, and other incidentals.

(Printing includes normal office copying and printing, check plots and check prints, and other incidental printing. Printing includes other agency review / approval plans if specifically required as a basic service in accordance with Section III. Other printing is usually either authorized as an Extra Service or arranged through the County's contracted printing companies at the County's expense.)

Include the same information for all proposed sub-consultants. Hourly rates shall be used as the basis of assessing changes in the scope of work.

The Consultant will be required to submit a sealed estimated fee based on the scope of work defined in this RFP and subsequent addenda, <u>only</u> if selected as a finalist.

## PART B.

# The <u>second part</u> covers the tasks required of the consultant.

- Explain in detail how this project will be approached and accomplished. This should include a description of the work to be performed for each phase of the project.
- 2. Provide recommendations on design alternatives, how efficiencies can be gained and or other ways that the project may be improved.
- 3. Provide a project schedule and time line for completing each phase described in Article III.

# VII. CONSULTANT SELECTION PROCEDURE

The selection procedure shall be in accordance with Fresno County Ordinance Code Chapter 4.10 and applicable provisions of the "Policy for Selection and Compensation of Architectural / Engineering Consultants" as last revised by the Board of Supervisors on November 29, 1994. The process includes the following provisions:

A Selection Committee will be formed to evaluate the proposals and to make recommendations to the Fresno County Board of Supervisors. The Selection Committee will consist of members from the County Administrative Office, Department of Public Works, and Planning & Resource Management Department, and may include a representative knowledgeable in engineering services from outside the community or from one of the universities. The Selection Committee will screen the received responses to the Request For Proposals and may select three or more firms as finalists. More firms will be considered as finalists when, in the judgment of the Selection Committee, other firms are equally qualified to provide the requested professional services. Finalists may be requested to interview with the Selection Committee as a part of the evaluation process.

After the finalist firms have been identified, and as a part of the Selection Committee's evaluation at interview time, the finalist firms will be required to submit estimated fees to provide professional services for the project. The estimated fees will be opened only after the Selection Committee has completed all of the interviews and considered each of the finalist's qualifications. The Selection Committee will consider the estimated fees of the finalists in its final deliberations.

The Selection Committee will address the following criteria in its evaluation of proposals (not necessarily in order of importance).

- A. Specific experiences with design, plan preparation and construction inspection of landfill gas collection and control systems.
- B. Educational background of the consultant's key individuals who will be assigned to the project on a full-time basis.
- C. Quality of past performance for the County or similar agencies.
- D. Qualifications of individual within the Consultant's organization directly responsible for the work. The County reserves the right of approval of the Consultant's project manager.
- E. Adequacy of staff to perform the work within the time allowed.
- F. Approach proposed for addressing the project requirements.

- G. Demonstrated ability to make effective public presentations on the requested reports and proposed designs.
- H. Demonstrated ability to work effectively with County staff, other public agencies and related parties.
- I. New or innovative ideas presented by the consultant in the proposal or presentations.
- Demonstrated ability to keep costs within project budgets and design estimates.
- K. Knowledge of local conditions.
- L. Demonstrated interest of the consultant in the success, efficiency, and workability of the facility during construction and post construction operation.
- M. Whether the consultant is currently engaged in another project which has direct and substantial physical relationship to the proposed project.
- N. Whether the consultant who designed the original facility should be retained for the new work on the basis of cost, detailed knowledge of the existing facility, or necessity of use of the same design concept in the work.
- O. Demonstrated record of abiding by terms of subcontract agreements regarding timely payment for services rendered on County projects.
- P. Ability of the Consultant to furnish effective and timely construction observation services.
- Q. Completeness of proposal.
- R. The estimated fee will be a factor in the final selection only after the most qualified firms have been identified.
- S. All other things being equal, local (within Fresno County) consultants are preferred over non-local consultants.
- T. All other things being equal, non-local consultants who associate with a local consultant for the purpose of the particular services required shall be preferred to non-local consultants who do not so associate.

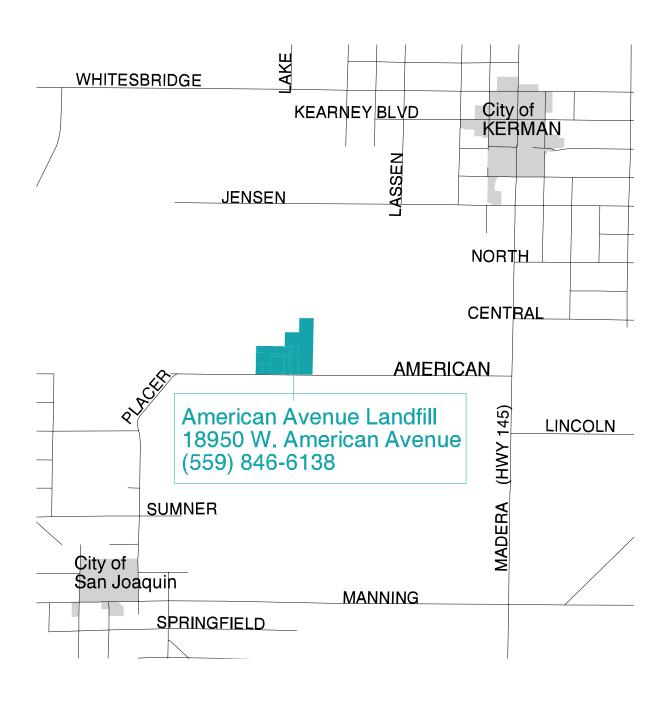
# VIII. FEE DETERMINATION

The Consultant compensation amount for the project will be negotiated with the

Board of Supervisors selected firm. In the event negotiations fail with this firm, the County will terminate negotiations and commence new negotiations with the next most qualified firm.

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# **American Avenue Landfill**



3 Miles



# SCS ENGINEERS MEMORANDUM

Date: April 5, 2001

Project: 01200108.00

To: Tim Cockrum, County of Fresno

From: Stephanie Young, SCS Engineers

Joseph Miller, SCS Engineers

Subject: Design Basis for Landfill Gas Collection and Control System Master

Plan,

American Avenue Landfill, Kerman, California

This memorandum presents SCS' design rationale and assumptions for the conceptual design of the gas control system at the American Avenue Landfill in Kerman, California. This memo also presents SCS' understanding of current site conditions and future site development. In doing so, the following topics are discussed:

- site description and existing site conditions;
- description of site operations;
- gas generation estimates;
- regulatory criteria; and
- design criteria

This memorandum provides a basis of design for preliminary sizing of landfill gas (LFG) system components. The objective is to allow the County of Fresno (County) to plan for LFG-related capital improvements in the short and medium term, and to plan budgeting cycles accordingly. Therefore our preliminary design provides guidance for planning purposes and is suitable for order-of-magnitude cost estimating.

The LFG Master Plan will allow the County to plan for capital improvements through closure in the year 2035. The County provided a detailed landfill capacity realization report to SCS for Fill Area II, Modules 1 through 8 only, which are planned to reach final grades in 2008. Capacity realization projections for specific modules were not provided for Fill Area I and Fill Area III. The County plans to excavate all existing waste in Fill Area I and relocate it to Fill Area II beginning in the summer of 2002. The County plans to begin filling in Fill Area III beginning in the year 2008. However, future projections for specific modules are unknown at this time.

SCS prepared conceptual design drawings of the LFG system. The drawings include:

- well field and piping plan for year 2002 (when the Federal Plan for the Emissions Guidelines (EG) Rule initially requires control);
- well field and piping for year 2005 (EG required build out in Module 5);
- well field and piping for year 2006 (EG required build out in Module 6);
- well field and piping for year 2007 (EG required build out in Module 7);
- well field and piping for year 2008 (EG required build out in Module 8);
- typical details for well field and piping components, blower/flare station, and condensate traps.

Conceptual layout drawings are also provided for Fill Areas I and III based on ten-year projections beginning in 2015. These drawings are divided into three phases: at year 2015, 2025 and 2035 (expected closure).

#### SITE DESCRIPTION AND EXISTING CONDITIONS

The American Avenue Landfill (site) is in rural central Fresno County, approximately 17 miles west of the City of Fresno on American Avenue, between Highway 145 and Placer Avenue. The landfill's site address is 18950 West American Avenue in Kerman, California 93630. The site is an existing disposal facility owned and operated by the County of Fresno Planning & Resources Management Department. The site resides on a 440-acre parcel with 361 acres permitted for waste disposal.

The site is comprised of assessor parcel numbers 020-052-02S, -05ST, -06, and -09 and 020-021-26S, -27, -33ST, -34ST, and -35ST. The site occupies the southeast quarter of Section 32, Township 14 South, Range 17 East, Mount Diablo Baseline & Meridian (MDB&M); the southwest quarter of Section 33, Township 14 South, Range 17 East, MDB&M; the southern half of the northwest quarter of Section 33, Township 14 South, Range 17 East, MDB&M; and the northeast quarter of the northwest quarter of Section 33, Township 14 South, Range 17 East, MDB&M.

The landfill began operations in 1971 and continues to accept waste. Per the Waste Discharge Requirements (WDR), the landfill is classified as a Class II and Class III landfill. The WDR authorizes the use of the Class III waste management units for disposal of non-hazardous solid wastes and inert solid wastes. The Class II waste management units were authorized for the disposal of ash from a waste-to-energy plant proposed for the Fresno Metropolitan area. However, the Class II waste management units has not been constructed at the landfill site to date, and it does not appear that the proposed facility will be constructed.

The site has an estimated maximum design capacity of 24,877,456 tons. The SWFP limits its total incoming average daily refuse disposal rate to 2,200 tons per day (TPD) and 3,600 TPD as the peak daily disposal rate.

The landfill area consists of three fill areas (Fill Areas I, II and III) encompassing approximately 361 acres. Fill Area I is unlined and partially filled with refuse and covered with an average of 12 inches of interim cover material. The County anticipates clean closure of Fill Area I beginning summer of 2002. All existing material will be excavated and relocated to Fill Area II. The footprint area, now under Fill Area I, will be lined, per Resource Conservation and Recovery Act (RCRA) Subtitle D requirements, for further waste placement. Fill Area II is composite-lined and divided into eight modules. Fill Area II is currently being filled with waste, of which six modules have waste in place. Fill Area III has not yet been constructed but will be composite-lined and divided into 15 modules.

Existing structures on-site include a gate house and scale facility, a 12,000-gallon above ground fuel dispensing and storage tank, a 16,400-gallon above ground leachate storage tank, a landfill operations water supply well, leach field, septic tanks and maintenance shed.

Surrounding land use to the east and south consists of agriculture, primarily orchards, vineyards, and cotton fields. To the north, land is partially used for agriculture and is partially undeveloped. Land use to the west is a mixture of residential, agricultural, and undeveloped land. A few single-family residences reside within 1,000 feet of the landfill to the north. Land within 1 mile of the site is zoned AE-20, exclusive agriculture, 20-acre minimum size, by the County of Fresno. The landfill itself is zoned AE-20, which permits landfills subject to a conditional use permit. The site currently operates under Conditional Use Permit No. 2146 issued by the County of Fresno.

Electrical power service to the landfill is provided from several service poles located along the access road between Fill Areas I and II. No natural gas service is available. We understand there is no municipal sewer or water service provided to the site.

#### Climate

The Fresno area experiences hot, dry summers and mild winters. Temperatures in the summer often exceed 100 degrees F, and winter temperatures range between 30 degrees F and 55 degrees F. The frost season is from late November until early March. Average daily temperatures from 1951 through 1980 (recorded at the Fresno station approximately 17 miles east of the site), ranged from a minimum of 45.3 degrees Fahrenheit (°F) in December to a maximum 97.9°F in July, with an annual mean temperature of 62.5°F (National Climatic Center, 1982).

Normal annual precipitation of 10.6 inches, as recorded from the Fresno Air Terminal (National Climate Data, 2001), was calculated from records extending 65 years from 1931 to 1995. Based on the records available, 95 percent of the precipitation occurs between October and April.

The California Energy Commission (1985) analyzed wind data from the Fresno station, approximately 17 miles from the landfill, and reported that prevailing winds blow from the northwest at an annual average of 6.5 miles per hour. During storm events, the wind generally blows from the southeast. Records were taken between 1962 and 1983 at this station.

# **Topography and Geology**

The site is situated on very flat topography, typical of large valley floors. The current topography of the landfill (as of 2001) is shown as Figure 2 in the attached conceptual drawings. Active landfill operations are carried out above grade using the area fill method. According to the final grading plan, Fill Area II will be mounded to approximately 288 feet mean sea level (ft-MSL).

The site is located in the San Joaquin Valley, a large structural basin filled with several thousand feet of sediments of variable age and composition. Underlying the site and its vicinity are a mixture of unconsolidated sand and silt with some clay and gravel. These materials are interpreted to represent ancient alluvial fan deposits that extended from the hills along the flanks of the ancestral valley and fluvial deposits associated with ancient stream systems. Depth to bedrock in the vicinity of the site is estimated at 1,000 feet.

The dominate soil type on the site, as described by the U.S. Department of Agriculture, is Fresno fine sandy loam. Other soils include Traver sandy loam, Hesperia sandy loam, and Fresno sandy loam. Field classification and laboratory tests show that the site soils are predominantly comprised of alternating layers of silty sand (SM), sandy silt and silt (ML), and sand (SW and SP) as classified by Unified Soil Classification System (USCS). As encountered during drilling, these earth materials are described as unconsolidated, dry to moist, and loose to dense. Natural moisture content data ranged from 2 to 17%. Permeability tests on the finer-grained vadose-zone soil units indicate permeability on the order of 10-5 to 10-7 cm/sec, while sand units exhibit permeability on the order of 10-3 to 10-5 cm/sec. For unlined landfill cells, these soil types would be considered relatively permeable with respect to LFG migration.

# **Groundwater**

The San Joaquin Valley is a major groundwater basin, and the underlying alluvial sediments are the principal source of groundwater in the area. Regional groundwater flow directions in the site area are to the south and east toward a large pumping depression centered four to six miles southwest of Raisin City, although variations occur due to more localized groundwater. At the site, groundwater is first encountered approximately 110 to 115 feet beneath ground surface. The groundwater is unconfined and the aquifer materials are comprised of alternating layers of sand and silt. Groundwater elevations, as measured in onsite monitoring wells, range from 72 to 82 feet above MSL.

#### **DESCRIPTION OF SITE OPERATIONS**

The landfill is operated using the area fill method. Waste is placed in lifts averaging 20 feet thick, with maximum perimeter slopes of 3:1 (horizontal:vertical). Wastes are deposited either at the base or the top of a sloped working face, and spread and compacted in 2-foot thick layers. The compaction equipment traverses the entire length of the working face, making several passes over each 2-foot thick layer of refuse to obtain adequate compaction of all wastes. To prevent bridging of the surrounding

refuse, large or bulky wastes are separated and placed in the lower portion of the advancing lift, and thoroughly crushed by compaction equipment.

After a lift is completed, a minimum 6-inch thick daily soil cover or approved alternative daily cover is placed. Areas not receiving additional wastes for a period of 180 days are covered with a minimum 12-inch thick intermediate soil cover. Cover materials are graded to prevent ponding of surface water over wastes and minimize erosion. Intermediate soil cover surfaces are vegetated annually before the beginning of the rainy season.

# Fill Sequencing

The County intends to expand the landfill to encompass a total area of 361 acres. The liner system construction and subsequent filing will occur in 18 disposal modules (Modules 7 and 8 in Fill Area II, Modules 1 through 15 in Fill Area III and Fill Area I). The future disposal modules (liner system areas) and associated excavation plan was prepared by EMCON (July 1996) (Reference 2).

Disposal modules will be filled from west to east. The County is currently linking Module 5 with Module 4 to an elevation of approximately 220 ft-MSL. As of December 2000, Module 6 has reached an elevation of approximately 180 ft-MSL and it continuing to grow. The County began filling operations in Module 7. Module 7 will link with Modules 6, 5 and 4. The pattern will continue when filling begins in Module 8. Each Module is built 13 months in advance.

According to aerial topographic maps between April 25, 2000 and December 20, 2000, Modules 1 through 4 have remained steady at approximately 220 ft-MSL. Also, according to the County's draft "Module 8 Liner Construction" drawings (November 2000), the County plans to build a new access road from the scale house to the top of Module 1 at an elevation of 220 ft-MSL. Therefore, it is our understanding that the County plans to reach an interim elevation of 220 ft-MSL over the entire Fill Area II area before proceeding back over the top.

After the elevation of 220 ft-MSL has been accomplished, the County will continue to fill Modules 1 though 8 in Fill Area II to an elevation of 240 ft-MSL by the year 2005. From there, all of Fill Area II will be brought to a final grade elevation of 288 ft-MSL before proceeding to Fill Area III in the year 2008.

Further capacity realization projections for specific modules were not provided for Fill Area I and Fill Area III. We assume the waste from Fill Area I will be removed and re-located, therefore, we assume that LFG control in that area is not applicable at this time.

The development of the landfill is presented in the most recent "Report of Disposal Site Information (RDSI)" and "Preliminary Closure Plan and Postclosure Maintenance Plan", both prepared by EMCON, August 1996. Excavation grades for current and future fill modules range from 150 to 180 ft-MSL with 5:1 slopes from the bottom of the excavation to the existing ground surface.

### **Liquids Management**

All current and future refuse disposal modules will be designed with base liners and a leachate collection and removal system (LCRS) per Subtitle D standards. The liner system for Modules 1 through 4 were built slightly different than Modules 5 through 8, however, all modules in Fill Area II are designed with the same LCRS.

The liner system for Modules 1 through 4 is constructed (from top to bottom) with a geotextile separator between the liner and operations layer; a minimum 1-foot thick drainage layer or geonet; HDPE membrane; a minimum 1.2 or 2.0-foot thick compacted clay liner; and prepared subgrade. The liner system for Modules 5 & 6 consists of (from top to bottom) 10 oz/sy geotextile, geonet, 60-mil HDPE membrane, geosynthetic clay liner (GCL) and compacted native/initial back fill soil (90% relative compaction).

The LCRS constructed in Modules 1 through 8 consists of a 1-foot thick drainage layer placed over an HDPE component of the composite base liner and a network of perforated HDPE pipes wrapped in gravel and geotextile. In addition, lysimeters were installed below the base liner as a means of early detection of leachate passing through the base liner. A similar LCRS will be designed and constructed in the other Fill Areas. The LCRS on the landfill base then directs leachate to a sump from which leachate is pumped to an above ground storage tank for disposal.

It is understood that the County is considering alternatives for leachate disposal. Information regarding these alternatives can be found in EMCON's "Leachate Treatment System Alternatives Evaluation Report" dated February 10, 1999.

## **LFG Perimeter Monitoring System**

Presently, there are 13 LFG monitoring wells installed in soils outside the landfill boundary along the northern perimeter. LFG levels in these wells are checked monthly. Due to increased LFG readings along the northern perimeter of Fill Area II, a temporary air injection control system was implemented in 1999. Based on discussions with County staff, sources of LFG were believed to be from the unlined Fill Area I, with LFG migration occurring along the northern boundary of Fill Area II where the liner interfaces with native soil. Through a series of air injection wells, a curtain of positive air pressure was maintained to prevent LFG from migrating past the landfill's perimeter. The system was considered an interim remediation measure. We understand the air injection system has been effective in reducing methane levels in off-site probes.

## **Other Future Projects**

The County is currently in the process of obtaining approval for the excavation and relocation of waste in Fill Area I. Based on discussions with County staff, they anticipate excavation work to begin in summer of 2002. However, this date is proposed and no contracts have been awarded to complete this work to date. Since the EG requires that construction of the LFG system occur during the same time period, the County may elect to change the excavation start date for Fill Area I or otherwise change the project for this reason.

In addition, the EG regulation states that a system must be operated such that "gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for: (a) 5 years or more if active". Waste in Fill Area I is at least 5 years old and therefore requires a system in October 2002 if it has not been clean-closed. If the waste from Fill Area I has been moved elsewhere, it is unclear whether the new area (e.g. Fill Area II) might need control due to the presence of the older waste from Fill Area I. The regulation does not have specific provisions for this particular circumstance; therefore, interpretation of the regulations may vary as to the age of waste and where systems are required.

This situation will be addressed in the Gas Collection and Control System (GCCS) Design Plan (Plan), which is also required by the EG. A variance will be requested from the San Joaquin Valley Unified Air Pollution Control District (APCD) to exclude Fill Area I from the requirements of the EG while clean closure is taking place.

Please note that the Plan is a "request" for variance only. Actual design of the system may change pending agency approval of the Plan. Agency approval of the Plan may not occur in the time to incorporate it into the Request for Proposals for design services; therefore, modifications may be required during the system's design stages.

#### LFG GENERATION ESTIMATES

As a basis of design, SCS prepared estimates of LFG generation at the American Avenue Landfill based on our best engineering judgement. We used a first-order kinetic model developed by the United States Environmental Protection Agency (U.S. EPA). The model takes into account site-specific factors which effect LFG generation including past/projected waste disposal rates, dates of filling, and expected refuse decomposition rates.

Refuse data from 1971 to 1986 was extrapolated from data provided by the County. Actual refuse data was used and inputted for 1987 to 1999. Disposal data for 2000 was based on an average daily disposal rate of 1,741 TPD noted in the "Joint Technical Document Amendment #2," prepared by the County of Fresno dated April 10, 2000. The disposal rate for 2001 originated from the "Joint Technical Document Amendment #2," which anticipated Assembly Bill 939 (AB 939) diversion efforts to decrease the amount disposed to 1,421 TPD. Disposal rates after 2001 were projected using a 2% increase in the daily average rate, not to exceed 796,400 tons per year (permitted daily disposal rate of 2,200 tons per day over 362 days per year).

Input parameters for the model were estimated based on actual recovery data from 38 landfills with similar climates. Using average annual precipitation data from the Fresno Air Terminal (1931-1995), the refuse methane generation potential, "L<sub>o</sub>," was compared to 38 landfills and estimated at 85 cubic meters per megagram. The default value of 0.02 was used for the methane generation rate constant, "k", for areas receiving less than 25 inches of rainfall per year. In general, the default values refer to the amount of methane generated per pound of refuse and the rate of refuse decomposition, respectively.

As shown in Attachment 1, we estimated the current (2001) LFG generation rate to be 799 SCFM. The estimated peak gas generation rate (and time of occurrence) will be 3,729 SCFM in year 2031. It should be noted that these values represent estimated gas generation, not recovery rates.

For final design, we suggest the estimated gas generation curve be confirmed or updated based on verification of past refuse disposal rates and projected refuse disposal rates.

# LFG Recoverability

Actual LFG collection rates are expected to be lower than generation rates due to inherent inefficiencies, liner system and cover provisions, collection system design, and LFG system operating methods. It is our opinion that LFG recoverability at landfills generally ranges between 60 and 85 percent of the amount of gas generated. For most landfill sites, we assume the collection efficiency to be 75 percent, which is in the mid to high end of the industry range and considers the landfill will have a composite bottom liner system and a 1-ft thick interim cover over the top of the landfill.

## **REGULATORY CRITERIA**

# Federal Clean Air Act – New Source Performance Standards Emission Guidelines Rule (NSPS/EG), 40 CFR Part 60, Subpart Cc, and 40 CFR Part 62, Subpart GGG (Federal Plan for the EG)

The American Avenue Landfill is considered an "existing" landfill under the NSPS because it has a design capacity greater than 2.5 million megagrams and it received waste after December 1987 and has additional design capacity to receive waste. As such, it is subject to the NSPS/EG which was promulgated as the Federal Plan for the EG and applies to APCD.

A Tier 2 emissions rate study was performed by SCS (Reference 7) to determine the non-methane organic compound (NMOC) emission rate for the landfill. Using the U.S. EPA Landfill Air Emissions Estimation Model, the estimated NMOC emissions rate for 2000 was 122.2 Megagrams per year (Mg/yr). Because estimated NMOC emissions will exceed 50 Mg/yr in 2000, a GCCS design plan will be required within 12 months of the reported exceedence (April 6, 2001), and within 18 months (October 6, 2002) the GCCS must be installed and operational.

The GCCS must be designed, installed, operated and maintained in accordance with 40 CFR 60.752 through 60.759. According to 40 CFR 60.753(a), if the landfill is active, LFG must be collected from each area, cell, or group of cells in the landfill in which solid waste has been in place for 5 years or more. Therefore, the EG governs when LFG system modifications are to occur.

#### 40 CFR Part 258 (Subtitle D) and CCR Title 27

The landfill owner/operator must implement measures to ensure that combustible gas concentrations do not exceed (1) the lower explosive limit (LEL, or 5% methane by

volume) in soils at the property boundary; or (2) 25 percent of the LEL (1.25% methane by volume) in facility structures.

A remediation plan must be implemented within 60 days of detection and verification that thresholds have been exceeded. LFG monitoring showed evidence of elevated combustible gas concentrations at the northern property line. Due to these elevated gas concentrations, the County implemented a temporary air injection system. Since the activation of the air injection system, no evidence of elevated LFG concentrations have been detected.

Based on discussions with County staff, it is believed that the source of LFG detected along the northern boundary of Fill Area II originated from the unlined Fill Area I. For purposes of this LFG Master Plan, we will assume that all waste from Fill Area I will be excavated and relocated to the lined modules in Fill Area II. Fill Area I will then be lined for future waste placement and that off-site migration from the newly lined Fill Area I is unlikely to occur.

#### **DESIGN CRITERIA**

## **GCCS Objectives**

At the American Avenue Landfill, the proposed GCCS should meet the following functional objectives based on SCS' understanding of site conditions, future site development, estimated gas generation and regulatory criteria:

- provide surface emissions control for regulatory compliance per EG regulations;
- provide effective treatment and disposal of LFG (per AQMD destruction efficiency requirements);
- comply with the requirements for a GCCS in the EG; and
- provide odor control for aesthetics and public acceptability.

In addition to the functional objectives described above the GCCS should be designed to enable installation and operation during on-going filling activities.

#### **LFG Collection and Control Concept**

According to the fill-sequencing section above, further capacity realization projections for specific modules were not provided for Fill Area I and Fill Area III. Therefore, this LFG master plan will only address the EG rule for Fill Area II, Modules 1 through 8 for the years 2002 through 2008. Since the landfill is regulated by the EG, the LFG Master Plan will address five phases when the EG requires control (i.e. when waste is 5 years old). For Fill Areas I and III, anticipated build-out of the system will be presented in 10-year increments: for the year 2015, 2025 and 2035 (expected closure).

The first phase of the system is for the year 2002. The plan will provide a proposed layout of the initial system that is required to be built per the EG by October 2002. The

next phase is in year 2005 when waste in Module 5 becomes 5 years old. Modules 6, 7 and 8 will follow every year thereafter (years 2006, 2007, and 2008). The plan for 2008 will show the complete proposed layout for Fill Area II since that is when the area is scheduled to be at final grade.

LFG will be collected from a network of vertical extraction wells, header and lateral piping, condensate collection traps and extraction blowers. Collected LFG will then be controlled by an enclosed ground flare. Preliminary drawings showing proposed GCCS layout, flare station, and typical LFG well details have been prepared by SCS and accompany this memorandum (Figures 1 through 11).

# Well-field and Piping Network (Collection System)

#### General Criteria—

Based on discussions with County staff, the County prefers an above grade header and lateral system. This will allow flexibility for the County to move piping to accommodate their active filling operations.

The intent of SCS' preliminary well field layout is to apply our best engineering judgement and EG design guidance where appropriate. The final GCCS design will be approved and stamped by a licensed professional engineer with experience in LFG control and recovery.

#### **Vertical Wells—**

Extendable vertical wells can be installed in areas that have not reached final grades. The extendable vertical wells will also allow operations to continue while gas extraction is taking place. Based on discussions with County staff and preliminary review of the fill-sequencing plan, the staging of the landfill is conducive to vertical wells only. When the EG requires control in certain modules, those modules will be near or at interim grades, which is favorable for vertical wells.

Vertical wells will initially be installed in Modules 1 through 4 where waste is 5 years old. Vertical well details will consist of 24- to 30-inch diameter borings drilled to at least ¾ of the depth of waste at final grade. Since the County is continuing to fill in Modules 1 through 4, the vertical extraction wells will be designed to accommodate current depths and depths at final grade.

Original drilled wells will be no deeper than 125 feet (maximum drilling depth for conventional drilling equipment). Where depth allows, wells can be equipped with dual extraction casings consisting of 2 pipes perforated and sealed at different intervals. This is a cost-effective approach for providing better control of extraction zones during active filling operations. Dual zone extraction wells would be installed in areas deeper than 80 feet. No wells will be installed in areas with refuse depths less than 40 feet.

Well casing pipe shall be HDPE and have a minimum diameter of 4 inches with shop fabricated slotting, square form flush threaded joints, special settlement joints and surface seals. This is consistent with the EG's materials requirement for LFG

components. Wells will be backfilled with coarse washed rock and bentonite seals at least 3 feet thick. In areas where active filling is still commencing, all extraction wells will be reinforced with corrugated metal pipe (CMP) for added protection.

The horizontal distance (spacing) between vertical wells is a function of well depth and perforation zone (slotting). Based on refuse depths and the above criteria, LFG wells will be spaced 150-350 feet on center. We assume the radius of influence will be up to 2.5 times the depth of the well, which is standard engineering practice. The solid pipe length will be minimum 20 feet below grade at final build out (i.e. the casing will be slotted at a minimum 20 feet below grade). This will reduce the potential for air intrusion (with the interim cover), yet provide enough slotted length of pipe for enhancing collection efficiency. Typical well details are attached as Figure 11.

# Well Flow Controls/Monitoring--

The vertical wells will be connected to the collection header piping with an ACCUFLO™ type control/monitoring unit (assembly) or equivalent unit to minimize long term operation cost. This control assembly will allow for sampling of gases, pressure, temperature, and flow measurements. Each control assembly will also have a valve to control the flow of gas from the well. This is also in accordance with the EG.

## **Collection Header Piping--**

The preliminary piping layout has been designed to take advantage of current/future site grades to minimize number of condensate collection sumps and condensate transmission lines. It also takes into account the future filling plans at the site. All LFG header piping will be HDPE with a standard dimension ratio of 17.0.

In portions of the landfill that will receive additional refuse, a temporary header pipe will be used until interim final grades are reached. The above ground header pipe will traverse the landfill surface in a manner which minimizes low spots and condensate collection points. Pipe expansion/contraction offsets and guides should be designed to account for thermal expansion and contraction of the pipe.

Below ground piping will be used under roads. All pipe will have a minimum slope of 3 percent on refuse and 0.5 percent in native soils.

For preliminary sizing of the pipe network, the maximum LFG generation rate of 3,729 SCFM was used in order to estimate flows from each well. Pipes have also been sized to provide a minimum vacuum of –20 inches of water column at each well. For final design, pipe sizes will be adjusted where necessary to maintain a velocity of less than 2,500 feet per minute (FPM) for head loss considerations. A velocity of 1,200 FPM will be used in reverse condensate flow conditions.

#### **Condensate Collection--**

Condensate generation is estimated to range between 290-500 gallons per million cubic feet of LFG. Assuming an average LFG collection rate of 1,000 SCFM, the amount of

condensate generated in a year will range between 152,525 and 262,975 gallons per year or 0.29 to 0.50 gallons per minute.

For small isolated runs of pipes where condensate drainage is in the reverse direction of gas flow, condensate will drain back into the wells. This is standard industry practice. It is assumed that this will continue to be allowed by regulatory agencies. In the reverse flow situations, the well control valves and sampling ports will be located at the high points along the pipe run. This will prevent ocndensate accumulation in the header pipes.

It is assumed that accumulated condensate can be pumped to a separate storage tank for injection into the LFG flare. Based on discussions with County staff, the County prefers to keep the condensate separate from the leachate for purposes of condensate injection into the flare.

# Flare Station (Control System)--

SCS consulted with the County regarding the location of the flare station and the only area currently available is near the leachate storage tank (Figure 3). This area is located on native soil and is close to the existing electrical power drop. The flare station will consist of a skid-mounted enclosed flare, skid-mounted extraction blowers, moisture separators and controls, condensate pump station and associated piping and electrical service.

According to the Federal Plan for the EG, gas moving equipment has a maximum life of 15 years. Therefore, the gas moving equipment and system must be sized to accommodate the entire landfill's flow in the year 2017. Using the U.S. EPA's model, a flow of 2,312 SCFM was projected for year 2017. Assuming a GCCS collection efficiency of 75%, which is expected in a comprehensive LFG system per the "Compilation of Air Pollutant Emission Factors" (AP-42), the total LFG flow anticipated for the flare is 1,734 SCFM. The nearest enclosed standard flare (John Zink) to accommodate this flow has a maximum flow rate of 1,700 SCFM. Therefore, the 1,700 SCFM flare facility will be used for this design.

Per the EG, the County may choose to install either a candle-type or enclosed flare. However, based on the initial LFG flow, a candle-type flare may trigger Best Available Control Technology (BACT) requirements, which would be an enclosed flare. Also, the enclosed flare is capable of condensate injection and destruction. Therefore, the enclosed flare is recommended for this site.

The enclosed flare should be skid-mounted for possible relocation in the future and is estimated at a rated capacity of 1,700 SCFM with a 5:1 turndown ratio (low range of 340 SCFM). This will handle flow from Fill Area II and other new Modules built and requiring systems at the time of 2017. The flare will be designed to meet the performance criteria in the EG rule for destruction efficiency.

Two blowers will initially be provided, each rated at 850 SCFM capacity. Each blower will be belt-driven (as opposed to direct drive) to enable adjustment of a wide range of flows and operating vacuums. Until LFG recovery at the site reaches 850 SCFM, one

blower will act a stand-by. Both blowers will be used when the recovery rate exceeds 850 SCFM. The flare design will include space for extra blower capacity for back-up at a later date.

# **Schedule for Capital Improvements**

Based on estimated LFG generation rates, fill-sequencing plans, and EG requirements for control in cells with waste 5 years old, major capital improvements will be required in years 2002, 2005, 2006, 2007, and 2008. Estimated capital improvements were also estimated for years 2015, 2025 and 2035. Figures 3 through 10 shows the layout of the GCCS at each of those successive stages.

Attachment 2 provides a summary of anticipated milestones for build out of the LFG system until closure. It also presents descriptions of LFG improvements of each fill module and anticipated timing for system installation along with estimated associated costs for capital improvements.

#### **ATTACHMENTS**

- 1. Landfill Gas Generation Estimates
- 2. Summary of Proposed GCCS Installation Milestones

#### **FIGURES**

- 1. Title Sheet
- 2. Existing Topography (See Attachment II)
- 3. Year 2002 GCCS Conceptual Plan (Modules 1-4) (See Attachment IV)
- 4. Year 2005 GCCS Conceptual Plan (Module 5) (Not Available)
- 5. Year 2006 GCCS Conceptual Plan (Module 6) (Not Available)
- 6. Year 2007 GCCS Conceptual Plan (Module 7) (Not Available)
- 7. Year 2008 GCCS Conceptual Plan (Module 8) (Not Available)
- 8. Year 2015 GCCS Conceptual Plan (Not Available)
- 9. Year 2025 GCCS Conceptual Plan (Not Available)
- 10. Year 2035 GCCS Conceptual Plan (Not Available)
- 11. Typical Details and Sections (Not Available)

#### REFERENCES

- 1. "American Avenue Landfill Alternative Liner Design October 1996," prepared by EMCON dated October 29, 1996.
- 2. "Joint Technical Document Amendment #2" prepared by County of Fresno dated April 10, 2000.
- 3. "Plans for Construction American Avenue Disposal Site Module 5 and 6, Excavation and Liner System Construction" prepared by the County of Fresno, Public Works & Development Services Department dated fiscal year 97/98.
- 4. "Preliminary Closure Plan and Postclosure Maintenance Plan," prepared by EMCON revised August 1996.
- 5. "Report of Disposal Site Information" prepared by EMCON revised August 1996.
- 6. "Solid Waste Facility Permit (SWFP)" Facility/Permit Number 10-AA-0009. Permit issued June 6, 2000. Permit Review Date: June 6, 2005.
- 7. "Summary Report New Source Performance Standards Tier 2 Sampling, Analysis, and Landfill NMOC Emission Estimates, American Avenue Landfill, Kerman, California," prepared by SCS Engineers dated November 3, 2000.
- 8. "Waste Discharge Requirements, Order No. 97-200" from the California Regional Water Quality Control Board, Central Valley Region.

## ATTACHMENT V

2	SAMPLE AGREEMENT FOR CONSULTANT SERVICES		
3	THIS AGREEMENT is made and entered into this day		
4	of, 2001, between the County of Fresno, a political		
5	subdivision of the State of California, (hereinafter called		
6	"COUNTY"), and		
7	[Consultant's firm name], Engineer,		
8	(A [State] Corporation / Partnership),		
9	[Individual's name] a sole proprietor doing		
10	business as [Firm name],		
11	[address], (hereinafter called		
12	"CONSULTANT").		
13	WITNESSETH:		
14	WHEREAS, COUNTY has completed a Landfill Gas Collection and		
15	Control Master Plan for the American Avenue Landfill, located at		
16	18950 West American Avenue, Kerman, CA 93630-9184, hereinafter		
17	called the LANDFILL; and		
18	WHEREAS, COUNTY desires to retain a consultant		
19	engineer to prepare plans, specifications, opinion of probable		
20	construction cost and other documents for the installation of a		
21	Landfill Gas Collection and Control System for Modules 1-4,		
22	hereinafter called the Project; and		
23	WHEREAS, said consultant engineer has been		
24	selected in accordance with COUNTY's Ordinance Code Chapter 4.10 on		
25	the selection of architects, engineers, and other professionals to		
26	provide the engineering services necessary for the Project.		

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28 willing to perform the \_\_\_\_\_ engineering services required by

WHEREAS, said CONSULTANT represents that it is qualified and

the COUNTY for these projects.

NOW, THEREFORE, the parties hereto have and by these presents do agree as follows:

#### I. <u>CONTRACTING WITH CONSULTANT: BASIC PARAMETERS</u>

- A. The COUNTY hereby contracts with the CONSULTANT as an independent contractor to provide consultant services as required for the project. Said services are described in Article II and enumerated in Article III herein.
- B. The CONSULTANT shall retain specialized subconsultants as CONSULTANT requires to assist in completing the work. All subconsultants used by CONSULTANT shall be approved by the COUNTY before they are retained by the CONSULTANT, which approval shall not be unreasonably withheld. Subconsultants listed in Exhibit \_\_\_\_, attached hereto and incorporated herein, shall be considered as approved by the COUNTY. Should CONSULTANT retain any subconsultants, compensation to be paid to CONSULTANT under Article V below, shall not be increased.
- C. The CONSULTANT's services shall be performed as expeditiously as is consistent with professional skill and the orderly progress of the work, based on project schedules prepared by the COUNTY.
- D. The CONSULTANT and affiliated subconsultants shall not submit bids, or subbids, for the contract construction phase of the project for which CONSULTANT provides services hereunder. The CONSULTANT and its subconsultants, and all other service providers, shall not provide any project-related services for, or receive any project-related compensation from any construction contractor, subcontractor or service provider awarded a construction contract

for all or any portion of the project for which CONSULTANT provides services hereunder. The CONSULTANT and its subconsultants, and all 3 other service providers, may provide services for, and receive compensation from a construction contractor, subcontractor or 4 service provider who has been awarded a construction contract for 5 all or any portion of the project, provided that any such services 6 7 which are rendered, and any compensation which is received therefor 8 relates to work outside the scope of this Agreement. 9 The contact person(s) for the CONSULTANT shall be: Ε. 10 \_\_\_ telephone \_\_\_\_, fax \_\_\_\_, email, \_\_\_, web \_\_\_. 11 DESCRIPTION OF THE WORK COVERED BY THIS AGREEMENT: 12 The work covered by this Agreement is for the design, 13 preparation of plans, specifications, and other services needed for 14 the construction of a gas collection and control system for modules 15 1 - 4. 16 /// 17 /// 18 /// 19 /// 20 /// 21 /// 22 /// 23 /// /// 25 /// 26 /// 27 ///

COUNTY OF FRESNO FRESNO, CALIFORNIA

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## III. CONSULTANT'S SERVICES:

[Consultant's Services will generally follow those described in the RFP].

## IV. <u>COUNTY'S OBLIGATIONS</u>:

[County's Obligations will generally follow those described in the RFP]

#### V. COMPENSATION:

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### A. <u>Total Fee</u>:

1. Notwithstanding any other provisions in this Agreement, the Total Fee (Basic Fee plus Extra Services Allocation) for the services required under this Agreement shall be the total sum of \$\_\_\_\_\_.

## B. <u>Basic Fee</u>:

1. Notwithstanding any other provisions in this

Agreement, the Basic Fee for the services required under Article

III shall be the total sum of \$\_\_\_\_\_\_. Within the Total Fee

limitation described in Section V.A.1. above, the Basic Fee for

each Phase of the project shall be divided as follows for purposes

of payment scheduling:

20		Percent	Dollars
21	Phase 1 - Pre-design	5	
22	Phase 2 - Preliminary Plans	25	
23	Phase 3 - Final Plans	40	
24	Phase 4 - Bidding and Award	5	
25	Phase 5A - Construction Inspection	10	
26	Phase 5B - Construction Management	10	
27	Phase 6 - Post Construction	<u>5</u>	
28	Total	100	

2. All expenses incidental to CONSULTANT's performance of services under Article III of this Agreement shall be borne by CONSULTANT. Incidental expenses include, but may not be limited to, transportation and travel, postage and courier services, photo and duplicating services, telephone and facsimile charges, computer storage media, drawing and plotting media, printing of "check print" plans and plan sets and documents specifically required by the provisions of Article III. of this Agreement.

### C. <u>Extra Services</u>:

- 1. There will be an additional maximum allocation of \$\_\_\_\_\_\_ to pay for authorized Extra Services. Payment of Extra Services in excess of \$\_\_\_\_\_\_ is unauthorized and can only be made pursuant to a prior written amendment to this Agreement.
- 2. The CONSULTANT shall not undertake any Extra Services without the advance authorization of the COUNTY Representative. The CONSULTANT and the COUNTY shall expressly confirm in writing the authorization and maximum cost for any such services before the CONSULTANT is compensated for any work thereon. CONSULTANT shall not add markup percentages or costs to subconsultant's costs unless expressly authorized in writing by the COUNTY.
- 3. Payment for Extra Services will be at the hourly and cost rates set forth in Exhibit A, attached hereto and incorporated herein. The rates listed therein are in effect for the duration of the Agreement. Such rates for Extra Services may be renegotiated annually at CONSULTANT's request, if this Agreement is in effect longer than one (1) year.
- 4. The following are consultant services which are considered as not included in Article III herein, but may be

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construction exceeds sixty (60) days beyond the original construction contract schedule as adjusted for weather delays and as adjusted for delays by CONSULTANT-caused change orders, negligent errors, or omissions.

Providing construction observation services when

- Conveying or transmitting construction documents for agency approval when the CONSULTANT is granted prior authorization by the COUNTY.
- Making changes to documents which are ordered by the COUNTY subsequent to COUNTY approval thereof.
- Preparing change orders when the project scope is changed on the basis of COUNTY-initiated requests, and such changes are not a result of negligent errors, acts, or omissions by the CONSULTANT.
- If necessary, advising and assisting the COUNTY e. with respect to any settlement or litigation arising out of any failure of the CONTRACTOR to fully perform the construction contract in accordance with the contract documents.
- f. Performing a visual inspection, within one year following the date of substantial completion (if requested by the COUNTY on the project), and reporting in writing on detectable defects in workmanship or material.
- Providing site surveys, geotechnical, and soil g. investigations.
- Providing unforeseen, extraordinary, or unique services or items not covered nor normally included in the Basic Fee, but authorized by the COUNTY Representative.

- i. If requested by COUNTY, as provided for in Section IV.\_\_.(Const.), to retain, when required for the project an independent testing laboratory to provide necessary soils, chemical, structural, mechanical, electrical or other tests and reports as may be necessary to assure quality control and construction compliance with the plans and specifications.
- j. Providing those items under Article III which are identified as Extra Services.
- 5. If the CONSULTANT becomes aware of potential unforeseen expenses that would not be covered by the Basic Fee of this Agreement or for Extra Services as delineated in this Article V., Section C., CONSULTANT shall inform the COUNTY of the extent and nature of such expenses or services. Upon mutual agreement of the CONSULTANT and the COUNTY, this Agreement may be amended in writing to cover such unforeseen expense or cost of Extra Service.
- authorizes Extra Services, CONSULTANT shall keep complete records showing the hours and description of activities worked by each person who works on the project and all costs and charges applicable to the Extra Services work authorized. Should there be a claim for Extra Services, the CONSULTANT understands and agrees that he or she must specifically identify the activity, performer of the activity, reason for the activity, and COUNTY official requesting the activity, or the claim will be denied. CONSULTANT shall be responsible for all subconsultants keeping similar records. The CONSULTANT shall not stop the work, including the design in other areas unrelated to the Extra Services request or claim, unless it can be shown the project design cannot proceed

while a claim or request for Extra Services is being evaluated.

## D. <u>Payments:</u>

1. Progress payments will be made by the COUNTY upon receipt of the CONSULTANT's monthly invoices and approval by COUNTY thereof, based on the COUNTY's evaluation of the completion of the respective components of the projects(s). Invoices shall clearly identify the specific project, agreed maximum project fee, and phase and description of the work performed], and shall be submitted with the documentation identified in paragraph V.D.5. below. CONSULTANT shall submit separate invoices for Extra Services, accompanied with copies of any subconsultant's invoices and costs for approved incidentals. Invoices shall be forwarded to:

Stuart G. Seiden, Capital Projects Division
Manager

Fresno County Department of Public Works
2220 Tulare Street, Suite 608
Fresno, CA 93721-2106

- 2. Upon receipt of a proper invoice, the COUNTY
  Department of Public Works will take a maximum of five (5) working
  days to review, approve, and submit it to the COUNTY
  Auditor-Controller/Treasurer-Tax Collector. Unsatisfactory or
  inaccurate invoices will be returned to the CONSULTANT for
  correction and resubmittal. Payment, less retention, will be
  issued to CONSULTANT within forty (40) calendar days of the date
  the Auditor-Controller/Treasurer-Tax Collector receives the
  approved invoice.
  - 3. COUNTY is entitled to and shall withhold a ten percent

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(10%) retention from the earned compensation in accordance with the provisions of Article VII of this Agreement.

- An unresolved dispute over a possible negligent error or omission may cause payment of CONSULTANT fees in the disputed amount to be withheld by the COUNTY.
- Concurrently with the invoices, the CONSULTANT shall 5. provide its certification acceptable to the COUNTY, and shall provide, on COUNTY request, copies of issued checks, receipts, or other COUNTY pre-approved documentation, that complete payment, less a ten percent (10%) retention, has been made by CONSULTANT to all subconsultants as provided herein for all previous invoices paid by the COUNTY, and that CONSULTANT has complied with state wage and work hour laws and regulations. However, the parties do not intend that the foregoing creates in any subconsultant or subcontractor a third party beneficiary status or third party beneficiary rights, and expressly disclaim any such status or rights.
- Final invoice, and separate invoice for retentions, shall be submitted to COUNTY no later than thirty (30) days after the project is completed. The CONSULTANT shall provide its certification acceptable to the COUNTY, on COUNTY request, that all subconsultants have received full payment for services rendered and work performed on the project. Payment for retentions shall not be made until all post-construction services are completed in accordance with the provisions of Article III, Section \_\_\_\_ (Post Construction) of this Agreement, including but not limited to record drawings approval, operation and maintenance manual review, and furnishing of required reports.

7. In the event the COUNTY reduces the scope of the project, the CONSULTANT will be compensated on a pro rata basis for actual work completed and accepted by the COUNTY in accordance with the terms of this Agreement.

#### VI. COMPENSATION RECORDS

The CONSULTANT shall keep complete records showing the hours and description of activities performed by each person who works on the project and all associated costs or charges applicable to work covered by the Basic Fee and approved Extra Services. The CONSULTANT will be responsible for all sub-consultants keeping similar records.

#### VII. RETENTION FROM EARNED COMPENSATION:

- A. In addition to any amounts withheld under Article III.

  Section \_\_\_\_.[const phase], COUNTY is entitled to and shall withhold a ten percent (10%) retention from the earned compensation of the CONSULTANT. Such retention from earned compensation may, at the COUNTY'S option, be applied to all phases of the consultant services to be provided under this agreement, including those phases completed and Extra Services.
- B. At the request and expense of the CONSULTANT, securities equivalent to the amount withheld shall be deposited with the COUNTY or with a state or federally chartered bank in California as the escrow agent, in accordance with Section 22300 of the California Public Contract Code, attached hereto as Exhibit \_\_ and incorporated herein, which provides for the substitution of securities for any moneys withheld by a public agency to ensure performance under a contract. If such request is made by the CONSULTANT, the escrow agreement shall be prepared by CONSULTANT in

compliance with the above-referenced statute and it may be executed by the Director of the Department of Public Works.

C. When the construction contract for the project has been satisfactorily performed to the eighty percent (80%) point of completion without major pending claims, disputes or other matters in question between the parties, the COUNTY may, at its discretion, reduce the retention from ten percent (10%) to five percent (5%), and the resulting surplus funds, less any current-phase or Extra Service retention, will be paid by COUNTY to CONSULTANT at that time. The final retention of five percent (5%) will be paid in accordance with the payment provisions of this Agreement and upon receipt of proper invoice, within forty-five (45) days after completion of all of CONSULTANT's obligations under this Agreement, including the resolution of all claims and disputes between COUNTY and CONSULTANT.

## VIII. <u>AUDITS, ACCOUNTING AND INSPECTIONS ACCESS</u>:

- A. The CONSULTANT shall at any time during regular business hours, and as often as the COUNTY may deem necessary, make available for examination by the COUNTY Auditor-Controller / Treasurer-Tax Collector, or their authorized representatives, all of CONSULTANT's records and data with respect to matters covered by this Agreement. The CONSULTANT shall permit COUNTY authorities to audit and inspect all invoices, materials, payrolls, records of personnel, conditions of employment, and other data relating to matters covered by this Agreement.
- B. The CONSULTANT shall be subject to the examination and audit of the Auditor General for a period of three (3) years after final payment under this Agreement (Government Code Section 8546.7)

## IX. ERRORS OR OMISSION CLAIMS AND DISPUTES

#### A. Definitions:

- 1. A "Consultant" is a duly licensed Architect or Engineer, or other provider of professional services, acting as a business entity (owner, partnership, corporation, joint venture or other business association) in accordance with the terms of an Agreement with the COUNTY.
- 2. A "Claim" is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of contract terms, payment of money, extension of time, change orders, or other relief with respect to the terms of the contract. The term "Claim" also includes other disputes and matters in question between the COUNTY and CONSULTANT arising out of or relating to the contract. Claims must be made by written notice. The provisions of Government Code section 901, et seq., shall apply to every claim made to COUNTY. The responsibility to substantiate claims shall rest with the party making the claim. The term "Claim" also includes any allegation of an error or omission by the CONSULTANT.
- B. In the spirit of cooperation between the COUNTY and CONSULTANT, the following procedures are established in the event of any claim or dispute alleging a negligent error, act, or omission, of the CONSULTANT.
- 1. Claims, disputes or other matters in question between the parties, arising out of or relating to this Agreement, shall not be subject to arbitration, but shall be subject to the following procedures.
  - 2. The project manager of COUNTY and CONSULTANT shall

meet and confer and attempt to reach agreement on any dispute, including what damages have occurred, the measure of damages and what proportion of damages, if any, shall be paid by either party. The parties agree to consult and consider the use of mediation or other form of dispute resolution prior to resorting to litigation.

- If the COUNTY and CONSULTANT cannot reach agreement under the immediately preceding paragraph IX.B.2., the disputed issues may, upon concurrence by all parties, be submitted to a panel of three (3) for a recommended resolution. The CONSULTANT and the COUNTY shall each select one (1) member of the panel, and the third member shall be selected by the other two panel members. The discovery rights provided by California Code of Civil Procedure for civil proceedings shall be available and enforceable to resolve the disputed issues. Either party requesting this dispute resolution process shall, when invoking the rights to this panel, give to the other party a notice describing the claims, disputes and other matters in question. Prior to 20 days before the initial meeting of the panel, both parties shall submit all documents such party intends to rely upon to resolve such dispute. determined by the panel that any party has relied on such documentation, but has failed to previously submit such documentation on a timely basis to the other party, the other party shall be entitled to a 20-day continuance of such initial meeting of the panel. The decision by the panel is not a condition precedent to arbitration, mediation or litigation.
- 4. Upon receipt of the panel's recommended resolution of the disputed issues, the COUNTY and the CONSULTANT shall again meet and confer and attempt to reach agreement. If the parties still

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are unable to reach agreement, each party shall have recourse to all appropriate legal and equitable remedies.

- The procedures to be followed in the resolution of claims and disputes may be modified at any time by mutual agreement of the parties hereto.
- D. The CONSULTANT shall continue to perform its obligations under this Agreement pending resolution of any dispute, and the COUNTY shall continue to make payments of all undisputed amounts due under this Agreement.
- When a claim by either party has been made alleging the CONSULTANT's negligent error, act, or omission, the COUNTY Project Manager and the CONSULTANT shall meet and confer within twenty-one (21) days after the written notice of the claim has been provided.

#### JOINDER OF PARTIES Х.

The CONSULTANT, the CONSULTANT's consultants of any tier, subcontractors of any tier, suppliers and construction lenders shall all be bound by the dispute resolution provisions of this Agreement, and immediately upon demand of COUNTY or CONSULTANT, shall participate in and shall become parties to the dispute resolution process, provided they have signed any document that incorporates or refers to the dispute resolution provisions of this Agreement. Failure of CONSULTANT, whether intended or inadvertent, to ensure that such nonparties have signed such a document shall inure only to CONSULTANT's detriment, if any there be. COUNTY shall not suffer a detriment by CONSULTANT's action or inaction in this regard. If such a party after due notice fails to appear at and participate in the dispute resolution proceedings, the panel established in accordance with the provisions of paragraph IX.B.3.

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27 28 shall make a decision based on evidence introduced by the party or parties who do participate.

### CONSULTANT'S OBLIGATIONS RELATING TO CONSTRUCTION CLAIMS

- The CONSULTANT will review and analyze construction contract claims and recommend resolution of them as soon as possible following receipt of demand by COUNTY.
- Within a reasonable time after receipt of a claim, the В. CONSULTANT shall provide a written analysis of the claim to the COUNTY, signed by the CONSULTANT and any affected sub-consultants. The written analysis shall include the CONSULTANT's professional opinion of the responsibility for payment of the claim, with supporting facts and documentation. A copy of the written analysis shall be provided to the respective insurance adjusters for CONSULTANT and any affected sub-consultant.
- C. Upon receipt of a claim, the CONSULTANT may also take one (1) or more of the following actions, within ten (10) days of receipt of a claim:
- Request additional supporting data from the claimant, requiring that such data be supplied within ten (10) days of the request;
- Submit a schedule to the parties indicating when the CONSULTANT expects to respond to the claim, which schedule shall not exceed thirty (30) days from CONSULTANT's original receipt of the claim;
- Recommend rejection of the claim in whole or in part, stating the reasons for such rejection;
  - Recommend approval of the claim by the other party, or
  - 5. Suggest a compromise.

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D. In every case, CONSULTANT shall provide its recommended resolution of a claim within thirty (30) days from the original receipt of claim, unless the CONSULTANT obtains COUNTY's prior written approval.

#### XII. <u>INDEPENDENT CONTRACTOR</u>:

- In performance of the work, duties, and obligations Α. assumed by CONSULTANT under this Agreement, it is mutually understood and agreed that CONSULTANT, including any and all of CONSULTANT's officers, agents and employees, will at all times be acting and performing as an independent contractor, and shall act in an independent capacity and not as an officer, agent, servant, employee, joint venturer, partner or associate of the COUNTY. Furthermore, COUNTY shall have no right to control or supervise or direct the manner or method by which CONSULTANT shall perform its work and function. However, COUNTY shall retain the right to administer this Agreement so as to verify that CONSULTANT is performing its obligations in accordance with the terms and conditions thereof. CONSULTANT and COUNTY shall comply with all applicable provisions of law and the rules and regulations, if any, of governmental authorities having jurisdiction over matters the subject thereof.
- B. Because of its status as an independent contractor,

  CONSULTANT shall have absolutely no right to employment rights and

  benefits available to COUNTY employees. CONSULTANT shall be solely

  liable and responsible for providing to, or on behalf of its

  employees all legally-required employee benefits. In addition,

  CONSULTANT shall be solely responsible and save COUNTY harmless

  from all matters relating to payment of CONSULTANT's employees,

including compliance with Social Security, withholding, and all other regulations governing such matters. It is acknowledged that during the term of this Agreement CONSULTANT may be providing services to others unrelated to the COUNTY or to this Agreement.

#### XIII. <u>PARTIES BOUND BY AGREEMENT</u>:

This Agreement shall be binding upon the COUNTY, the CONSULTANT, and their successors in interest, legal representatives, executors, administrators, and assigns with respect to all covenants as set forth herein.

#### XIV. REQUIRED APPROVALS:

It is understood that the CONSULTANT shall not assign, sublet, subcontract, or transfer any of CONSULTANT's rights, duties, or obligations under this Agreement, without the prior express, written consent of the COUNTY. Such consent and approval may be given only by the COUNTY Board of Supervisors.

## XV. <u>COMPLIANCE WITH LAWS</u>:

CONSULTANT shall comply with all applicable federal, state, and local laws, ordinances, regulations, and Fresno County Charter Provisions in effect at the time of CONSULTANT's performance of the professional services to be provided hereunder.

#### XVI. GOVERNING LAW:

- A. Any controversy or claim arising out of or relating to this Agreement which cannot be amicably settled without court action shall be litigated either in a state court for Fresno County, California, or in the U.S. District Court for the Eastern District of California, located in Fresno County.
- B. The rights and obligations of the parties and all interpretations and performance of this Agreement shall be governed

in all respects by the laws of the State of California.

#### XVII. AMENDMENTS:

Any changes to this Agreement requested either by the COUNTY or CONSULTANT may only be effected if mutually agreed upon in writing by duly authorized representatives of the parties hereto. This Agreement shall not be modified or amended, nor shall any rights of a party hereto be waived, except by such a writing.

XVIII. CONSULTANT'S LEGAL AUTHORITY:

[FOR CALIFORNIA CORPORATIONS:] Each individual executing this Agreement on behalf of CONSULTANT hereby covenants, warrants, and represents: (i) that he or she is duly authorized to execute and deliver this Agreement on behalf of such corporation in accordance with a duly adopted resolution of the corporation's board of directors and in accordance with such corporation's articles of incorporation or charter and bylaws; (ii) that this Agreement is binding upon such corporation; and (iii) that CONSULTANT is a duly organized and legally existing corporation in good standing in the State of California.

[FOR CALIFORNIA PARTNERSHIPS:] Each individual executing this Agreement on behalf of CONSULTANT hereby covenants, warrants, and represents: (i) that he or she is duly authorized to execute and deliver this Agreement on behalf of such partnership in accordance with its Partnership Agreement; and (ii) that this Agreement is binding upon such partnership; and (iii) that CONSULTANT is a duly organized and legally existing partnership in the State of California.

[FOR OUT OF STATE CORPORATIONS:] Each individual executing this Agreement on behalf of CONSULTANT hereby covenants, warrants,

and represents: (i) that he or she is duly authorized to execute and deliver this Agreement on behalf of such corporation in accordance with a duly adopted resolution of the corporation's board of directors and in accordance with such corporation's articles of incorporation or charter and bylaws; (ii) that this Agreement is binding upon such corporation; (iii) that CONSULTANT is duly organized and legally existing corporation in good standing in the State of \_\_\_\_\_\_, is registered with the California Secretary of State to do business in the State of California as a foreign corporation, and; (iv) that each individual executing or attesting this Agreement on behalf of CONSULTANT hereby covenants, warrants, and represents:

- a. That this Agreement is binding upon such corporation; and
- b. That CONSULTANT shall deliver to COUNTY all necessary certificates and assurances indicating CONSULTANT's right to conduct business in the State of California including but not limited to certificates filed with the California Secretary of State to conduct business in California and the name and California-based address of CONSULTANT's agent for receipt of service of process.

[FOR SOLE PROPRIETOR:] Each individual executing this
Agreement on behalf of CONSULTANT, a sole proprietor, hereby
covenants, warrants, and represents: (i) that he or she is duly
authorized to execute and deliver this Agreement on behalf of such
sole proprietor; and (ii) that this Agreement is binding upon such
proprietor.

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## XIX. HOLD HARMLESS:

- A. CONSULTANT shall hold harmless and indemnify COUNTY, its officers, agents, and employees, against the payment of any and all costs and expenses (including reasonable attorney fees and court costs), damages, claims, suits, losses, and liability for bodily and personal injury to or death of any person or for loss of any property resulting from or arising out of any negligent or wrongful acts, errors or omissions of CONSULTANT, its officers, agents, and employees, in performing or failing to perform any work, services, or functions under this Agreement.
- B. COUNTY and CONSULTANT hereby declare their mutual intent to cooperate in the defense of any claim, suit, or other action alleging liability, arising from the negligent performance or failure to perform of any COUNTY contractor or subcontractor in connection with the project. Such cooperation may include an agreement to prepare and present a cooperative defense after consultation with CONSULTANT's professional liability insurance carrier.

#### XX. <u>LIABILITY INSURANCE</u>:

- A. Prior to commencing the duties under the Agreement with the COUNTY, the CONSULTANT shall furnish the COUNTY, at no additional cost to the COUNTY, certificates for the following insurance policies which shall be kept in force at all times during the term of the Agreement (i.e., until the Agreement is terminated or it expires), and for such additional time as may be specified herein with respect to a particular type of policy.
- 1. Commercial General Liability Insurance or Comprehensive General Liability Insurance, naming the COUNTY as an

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additional insured, with limits of not less than \$1,000,000 per occurrence.

- Comprehensive Automobile Liability Insurance with limits for bodily injury of not less than \$250,000 per person, \$500,000 per accident and for property damages of not less than \$50,000, or such coverage with a combined single limit of \$500,000.
- 3. Worker's Compensation insurance policy as required by the California Labor Code.
  - Project Specific Professional Liability Insurance:
- In the minimum amount of at least \$1,000,000 coverage per claim, with an annual aggregate of at least \$1,000,000, and with a deductible not to exceed \$50,000. A deductible greater than \$50,000 will be accepted upon the COUNTY receiving satisfactory, certified information of the CONSULTANT's ability to support such a deductible. The financial ability to support the difference between the \$50,000 and greater deductible amount requested by CONSULTANT shall be guaranteed by any of the following:
  - 1. Cash deposit with a trustee bank.
- 2. Irrevocable letter of credit issued by a bank for a period sufficient for the COUNTY to determine if there is a claim to be made against the CONSULTANT, e.g. six months after termination of Agreement.
- Withholding payment under terms of the Agreement for the same period as under Article VII. herein.
- CONSULTANT and subconsultants shall make full disclosure, in writing to the COUNTY, of all pending and open claims and disputes during the course of this Agreement that affect

the specified aggregate limits of the Professional Liability Insurance policy.

- c. Project Specific Professional Liability Insurance shall extend for a minimum of two (2) years past the date of final payment to CONSULTANT, including the resolution of all claims, disputes, and matters in question regarding the project.
- d. In the event that CONSULTANT voluntarily changes, or involuntarily changes, due to circumstances beyond its control, its Professional Liability Insurance policy carrier during the period such coverage is required to be in force (as specified in the immediately preceding subparagraph XX.A.4.c), such new policy shall include prior acts coverage retroactive, at least, to the date of execution of this Agreement. CONSULTANT may, at its option and expense, purchase supplemental or "tail" coverage from the former policy carrier, negotiate a retroactive reporting date with the new policy carrier for claims incurred but not reported as of the date of change in policy carrier, and shall in any event maintain Professional Liability Insurance in a manner that provides continuous coverage to the COUNTY throughout the term of this Agreement, and for a period of two (2) years past the issuance of final payment to the CONSULTANT.
- e. The CONSULTANT shall, provide project specific professional liability insurance for itself and all sub-consultants for this project, extending from the beginning of project Phase 1 to two (2) years past the issuance of final payment hereunder to the CONSULTANT. This time period specifically includes that time required for the resolution of all claims and disputes.
  - f. The CONSULTANT shall provide a vicarious interest

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endorsement to its Professional Liability Insurance policy, indemnifying the COUNTY for liabilities, damages and/or judgments, and reasonable attorney's fees and related costs (a) to the proportionate extent caused by the negligent errors, acts or omissions of CONSULTANT and (b) in excess of the deductible obligation and subject to all of the terms, conditions and exclusions of the Professional Liability Insurance policy. B.

All policies shall be with admitted insurers licensed to do business in the State of California. CONSULTANT shall give COUNTY at least thirty (30) days written advance notice of any expiration, cancellation or reduction in the coverage of any of the aforesaid policies.

- The COUNTY, its officers, agents and employees, C. individually and collectively, shall be named as an additional insured under the policy for Commercial General Liability Insurance or Comprehensive General Liability Insurance, but only insofar as the operations under this Agreement are concerned. Such coverage of COUNTY as additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by the COUNTY, its officers, agents, and employees, shall be excess only and not contributing with insurance provided under the CONSULTANT's policies herein.
- In the event CONSULTANT fails to keep in effect at all times insurance coverage as herein provided, the COUNTY may, in addition to other remedies it may have, suspend or terminate this Agreement upon the occurrence of such event.

# XXI. <a href="OWNERSHIP OF DOCUMENTS">OWNERSHIP OF DOCUMENTS</a>: [Complex, various project]

CONSULTANT understands and agrees that COUNTY shall retain full ownership rights of the drawings and the work-product of CONSULTANT for the project, to the fullest extent permitted by law. In this regard, CONSULTANT acknowledges and agrees that CONSULTANT's services are on behalf of COUNTY and are "works made for hire," as that term is defined in copyright law, by COUNTY; that the drawings and work-product to be prepared by CONSULTANT are for the sole and exclusive use of COUNTY, and shall be the sole property of COUNTY and its assigns, and the COUNTY and its assigns shall be the sole owner of all patents, copyrights, trademarks, trade secrets and other contractual and intangible rights of any kind or nature in connection therewith; that all the contractual or intangible rights of any kind or nature, title, and interest in and to the drawings and work-product will be transferred to COUNTY by CONSULTANT, and CONSULTANT will assist COUNTY to obtain and enforce patents, copyrights, trademarks, trade secrets, and other contractual and intangible rights of any kind or nature relating to said drawings and work-product; that COUNTY shall be and become the owner of such drawings and work product, free and clear of any claim by CONSULTANT or anyone claiming any right through CONSULTANT. CONSULTANT further acknowledges and agrees that COUNTY's ownership rights in such drawings and work product shall apply regardless of whether such drawings or work product, or any copies thereof, are in the possession of CONSULTANT, or any other person, firm, corporation, or entity. For the purpose of this Agreement the terms "drawings and work-product" shall mean all reports and study findings commissioned to develop the design of

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the project, drawings and schematic or preliminary design documents of the project, certified reproducibles of the original final construction contract drawings of the project, specifications of the project, the approved opinion of probable construction cost of the project, record drawings of the project, as-built plans of the project, and discoveries, developments, designs, improvements, inventions, formulas, processes, techniques, or specific know-how and data generated or conceived or reduced to practice or learning by CONSULTANT, either alone or jointly with others, that result from the tasks assigned to CONSULTANT by COUNTY under this Agreement.

- B. If the Agreement is terminated during or at the completion of the preliminary design phase under Article III, a reproducible copy of the preliminary design documents shall be submitted by CONSULTANT to the COUNTY, which may use them to complete the project in future phases.
- C. If the project is terminated at the completion of the construction document phase of the project, certified reproducibles on .003" mylars of the original final construction contract drawings, specifications, and approved opinion of probable construction cost shall be submitted by CONSULTANT to COUNTY.

[ this D., E. acceptable to consultants, counsel ]

D. Documents, including drawings and specifications, prepared by CONSULTANT for any project pursuant to this Agreement are not intended or represented to be suitable for reuse by COUNTY or others on extensions of the services provided for this project or any other project. Any use of completed documents for other projects and/or any use of uncompleted documents will be at

COUNTY's sole risk and without liability or legal exposure to CONSULTANT.

E. COUNTY has requested that certain machine-readable information and data ("CAD data") be provided by CONSULTANT for the project under this Agreement. Such CAD data is more specifically described in Article III. CONSULTANT shall not be liable for claims, liabilities or losses arising out of, or connected with (1) the modification or misuse by COUNTY, or anyone authorized by COUNTY, of such CAD data; or (2) decline of accuracy or readability of CAD data due to inappropriate storage conditions or duration; or (3) any use by COUNTY, or anyone authorized by COUNTY, of such CAD data for additions to this project or for the completion of this project by others, or for other projects.

#### XXII. <u>TIME OF COMPLETION</u>:

- A. The parties hereto agree to the Production Schedule shown in Exhibit \_\_\_\_, attached hereto and incorporated herein.
- B. CONSULTANT shall not be held responsible for delays caused by COUNTY review, or by similar reasons beyond CONSULTANT's control.
- C. CONSULTANT shall complete all services required under this Agreement in accordance with [Exhibit \_\_\_] and this Agreement shall expire on \_\_\_\_ unless it is extended in writing by the Director of the Department of Public Works or his/her designee, or it is terminated earlier in accordance with the provisions of Article XXIII.
- E. Time is of the essence in the completion of the services covered by this Agreement. Failure of the CONSULTANT to meet any specific date in the above-referenced schedule, once such failure

exceeds fourteen 14 calendar days past the specified completion date (unless the delay is attributable to the COUNTY or State), is sufficient cause to immediately terminate this Agreement at the option of the COUNTY in accordance with Article XXIII.C.

#### XXIII. <u>TERMINATION OF AGREEMENT</u>:

- A. This Agreement may be terminated without cause at any time by the COUNTY upon thirty (30) calendar days written notice. If the COUNTY terminates this Agreement, the CONSULTANT shall be compensated for services satisfactorily completed to the date of termination based upon the compensation rates and subject to the maximum amounts payable agreed to in Article V, together with such additional services satisfactorily performed after termination which are expressly authorized by the COUNTY Representative in order to conclude the work performed to date of termination.
- B. If the CONSULTANT terminates the Agreement for reasons other than material breach by the COUNTY, the CONSULTANT shall reimburse the COUNTY, up to a maximum of \$10,000 for the actual expense of issuing a Request For Proposal (RFP), engaging a new CONSULTANT, and the new CONSULTANT's cost in becoming familiar with the previous CONSULTANT's design.
- C. The COUNTY may immediately suspend or terminate this

  Agreement in whole or in part, where in the determination of the

  COUNTY there is:
  - 1. An illegal or improper use of funds;
  - 2. A failure to comply with any term of this Agreement;
- 3. A substantially incorrect or incomplete report submitted to the COUNTY;
  - 4. Improperly performed service.

- D. In no event shall any payment by the COUNTY constitute a waiver by the COUNTY of any breach of this Agreement or any default which may then exist on the part of the CONSULTANT. Neither shall such payment impair or prejudice any remedy available to the COUNTY with respect to the breach or default. The COUNTY shall have the right to demand of the CONSULTANT the repayment to the COUNTY of any funds disbursed to the CONSULTANT under this Agreement, which, in the judgment of the COUNTY and as determined in accordance with the procedures of Article IX ("Errors or Omissions Claims and Disputes"), were not expended in accordance with the terms of this Agreement. The CONSULTANT shall promptly refund any such funds upon demand.
- E. The terms of this Agreement, and the services to be provided thereunder, are contingent on the approval of funds by the appropriating government agency. Should sufficient funds not be allocated, the services provided may be modified, or this Agreement terminated at any time by giving the CONSULTANT thirty (30) days advance written notice.

#### 19 XXIV. CONFLICT OF INTEREST:

The CONSULTANT shall comply with the provisions of the Fresno County Department of Public Works Conflict of Interest Code, attached hereto as Exhibit \_\_\_ and incorporated herein. Such compliance shall include the filing of annual statements pursuant to the regulations of the State Fair Political Practices Commission.

#### XXV. ENTIRE AGREEMENT:

This Agreement constitutes the entire agreement between the COUNTY and the CONSULTANT with respect to the subject matter hereof

1 and supersedes all previous negotiations, proposals, commitments, writings, advertisements, publications, and understandings of any 3 nature whatsoever unless expressly included in this Agreement. 4 XXVI. **SEVERABILITY:** 5 Should any provision herein be found or deemed to be invalid, this Agreement shall be construed as not containing such provision, 6 7 and all other provisions which are otherwise lawful shall remain in 8 full force and effect, and to this end the provisions of this Agreement are hereby declared to be severable. 10 /// 11 /// 12 /// 13 /// 14 /// 15 /// 16 /// 17 /// 18 /// 19 /// 20 /// 21 /// 22 /// 23 /// /// 25 /// 26 /// 27 /// 28 ///

COUNTY OF FRESNO FRESNO, CALIFORNIA

1	IN WITNESS WHEREOF, the parties hereto have caused this			
2	Agreement to be executed as of the day and year first above			
3	written.			
4	CONTRACTOR / CONSULTANT NAME	COUNTY OF FRESNO		
5				
6	BY:	BY:CHAIRMAN, BOARD OF SUPERVISORS		
7	TITLE:	CHAIRMAN, BOARD OF SUPERVISORS		
8	(Insert address, tel, fax)			
9				
10	FEDERAL ID NO			
11				
12	REVIEWED AND RECOMMENDED FOR APPROVAL	APPROVED AS TO LEGAL FORM PHILLIP S. CRONIN, COUNTY COUNSEL		
13	AFFROVAL	FIIIDLIF S. CRONIN, COUNTI COUNSED		
14	BY:RICHARD L. BROGAN, DIRECTOR	BY:		
15	DEPARTMENT OF PUBLIC WORKS	APPROVED AS TO ACCOUNTING FORM		
16	RV:	RV:		
17	BY:CAROLINA JIMENEZ-HOGG, DIRECTOR PLANNING & RESOURCE MANAGEMENT	AUDITOR-CONTROLLER/ TREASURER-TAX COLLECTOR		
18	DEPARTMENT	TREADORDIC TAM COLLECTOR		
19	Fund:0700/Subclass:15000/Org:			
20	9026/Acct:7295/Memo:24/FY:01			
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23	BZ:bz			
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COUNTY OF FRESNO FRESNO, CALIFORNIA